IN THE CLAIMS:

Please AMEND claims 1-3, 15-18, and 30-33 as follows.

1. (Currently Amended) A method for determining weight factors of antenna beams, the method comprising:

using at least one directional antenna beam implemented with an antenna array to establish a radio link,

forming a radio cell with the antenna beam,

dividing the radio cell into at least two different cells by dividing the antenna beam, and

selecting weight factors of antenna elements of the antenna array such that the antenna element specific sums of weight factors of a radio cell formed with the antenna array and corresponding weight factors of at least one, second radio cell formed with the same antenna array are at least substantially equal within predetermined limits in order to achieve a predetermined power balance between different antenna elements.

2. (Currently Amended) A method for determining weight factors of antenna beams, the method comprising:

using at least one directional antenna beam implemented with an antenna array to establish a radio link,

dividing the antenna beam into at least two user-specific beams, and

selecting weight factors of antenna elements of the antenna array such that the antenna element specific sums of weight factors of antenna elements of a user-specific beam and corresponding weight factors of other user-specific beams formed with the same antenna array are at least substantially equal within predetermined limits in order to achieve a predetermined power balance between different antenna elements.

3. (Currently Amended) A method for determining weight factors of antenna beams, the method comprising:

using at least one directional antenna beam implemented with an antenna array to establish a radio link,

forming a radio cell with the antenna beam,

dividing the radio cell into at least two different cells by dividing the antenna beam,

dividing at least one antenna beam forming a radio cell into at least two user-specific beams, and

selecting weight factors of antenna elements of the antenna array such that the antenna element specific sums of corresponding weight factors of beams formed with the same antenna array are at least substantially equal within predetermined limits in order to achieve a predetermined power balance between different antenna elements.

4. (Original) A method as claimed in claim 1, wherein the desired beam directivity is taken into account when predetermined limits are set for the antenna element specific sums.

5. (Original) A method as claimed in claim 1, wherein the minimization of crosstalk produced in another cell is taken into account when predetermined limits are set for the antenna element specific sums.

6. (Original) A method as claimed in claim 1, wherein the desired attenuation between different radio cells is taken into account when predetermined limits are set for the antenna element specific sums.

7. (Original) A method as claimed in claim 1, wherein the achieving of the necessary capacity in the desired geographical area is taken into account when predetermined limits are set for the antenna element specific sums.

8. (Original) A method as claimed in claim 1, wherein the weight factors of the antenna elements of the antenna array are selected by numerical estimation.

9. (Original) A method as claimed in claim 1, wherein the weight factors of the antenna elements of the antenna array are selected by analytical examination.

10. (Original) A method as claimed in claim 3, wherein a primary common pilot (PCPICH) according to the WCDMA system is transmitted to the radio cell and a separate secondary common pilot (SCPICH) according to the WCDMA system is transmitted to each user-specific beam.

11. (Original) A method as claimed in claim 1, wherein the antenna beams are formed by an analogue beam forming method.

12. (Original) A method as claimed in claim 1, wherein the antenna beams are formed by a digital beam forming method.

13. (Original) A method as claimed in claim 1, wherein the weight factors are complex.

14. (Original) A method as claimed in claim 2, wherein a different scrambling code is used in one or more user-specific beams.

15. (Currently Amended) A method as claimed in claim 1, wherein the power balance is as equal as possible ~~a perfect power balance~~.

16. (Currently Amended) A transmitter for determining weight factors of antenna beams, in which ~~arrangement~~ transmitter at least one directional antenna beam implemented with an antenna array is used to establish a radio link and a radio cell is formed with the antenna beam, comprising:

means for dividing the radio cell into at least two cells by dividing the antenna beam, and

means for selecting weight factors of antenna elements of the antenna array such that the antenna element specific sums of weight factors of a radio cell formed with the antenna array and corresponding weight factors of at least one, second radio cell formed with the same antenna array are at least substantially equal within predetermined limits in order to achieve a predetermined power balance between different antenna elements.

17. (Currently Amended) A transmitter for determining weight factors of antenna beams, in which ~~arrangement~~ transmitter at least one directional antenna beam implemented with an antenna array is used to establish a radio link, comprising:

means for dividing the antenna beam into at least two user-specific beams, and

means for selecting weight factors of antenna elements of the antenna array such that the antenna element specific sums of weight factors of antenna elements of a user-specific beam and corresponding weight factors of other user-specific beams formed with the same antenna array are at least substantially equal within predetermined limits in order to achieve a predetermined power balance between different antenna elements.

18. (Currently Amended) A transmitter for determining weight factors of antenna beams, in which ~~arrangement~~ transmitter at least one directional antenna beam implemented with an antenna array is used to establish a radio link and a radio cell is formed with the antenna beam, comprising:

means for dividing the radio cell into at least two different cells by dividing the antenna beam,

means for dividing the antenna beam forming a radio cell into at least two user-specific beams, and

means for selecting weight factors of antenna elements of the antenna array such that the antenna element specific sums of corresponding weight factors of beams formed with the same antenna array are at least substantially equal within predetermined limits in order to achieve a predetermined power balance between different antenna elements.

19. (Original) A transmitter as claimed in claim 17, wherein the desired beam directivity is taken into account when predetermined limits are set for the antenna element specific sums.

20. (Original) A transmitter as claimed in claim 17, wherein the minimization of crosstalk produced in the second cell is taken into account when predetermined limits are set for the antenna element specific sums.

21. (Original) A transmitter as claimed in claim 17, wherein the desired attenuation between different radio cells is taken into account when predetermined limits are set for the antenna element specific sums.

22. (Original) A transmitter as claimed in claim 17, wherein the defined capacity in the desired geographical area is taken into account when predetermined limits are set for the antenna element specific sums.

23. (Original) A transmitter as claimed in claim 17, wherein the weight factors of the antenna elements of the antenna array are selected by numerical estimation.

24. (Original) A transmitter as claimed in claim 18, wherein the weight factors of the antenna elements of the antenna array are selected by analytical observation.

25. (Original) A transmitter as claimed in claim 18, wherein a primary common pilot (PCPICH) according to the WCDMA system is transmitted to the radio cell and a separate secondary common pilot (SCPICH) according to the WCDMA system is transmitted to each user-specific beam.

26. (Original) A transmitter as claimed in claim 18, wherein the antenna beams are formed by an analogue beam forming method.

27. (Original) A transmitter as claimed in claim 18, wherein the antenna beams are formed by a digital beam forming method.

28. (Original) A transmitter as claimed in claim 18, wherein the weight factors are complex.

29. (Original) A transmitter as claimed in claim 18, wherein a different scrambling code is used in one or more user-specific beams.

30. (Currently Amended) A transmitter as claimed in claim 18, wherein the power balance is as equal as possible ~~a perfect power balance~~.

31. (Currently Amended) A transmitter for determining weight factors of antenna beams, in which ~~arrangement~~ transmitter at least one directional antenna beam implemented with an antenna array is used to establish a radio link and a radio cell is formed with the antenna beam, comprising:

dividing means dividing the radio cell into at least two cells by dividing the antenna beam, and

selecting means selecting weight factors of antenna elements of the antenna array such that the antenna element specific sums of weight factors of a radio cell formed with the antenna array and corresponding weight factors of at least one, second radio cell

formed with the same antenna array are at least substantially equal within predetermined limits in order to achieve a predetermined power balance between different antenna elements.

32. (Currently Amended) A transmitter for determining weight factors of antenna beams, in which ~~arrangement~~ transmitter at least one directional antenna beam implemented with an antenna array is used to establish a radio link, comprising:

dividing means dividing the antenna beam into at least two user-specific beams, and

selecting means selecting weight factors of antenna elements of the antenna array such that the antenna element specific sums of weight factors of antenna elements of a user-specific beam and corresponding weight factors of other user-specific beams formed with the same antenna array are at least substantially equal within predetermined limits in order to achieve a predetermined power balance between different antenna elements.

33. (Currently Amended) A transmitter for determining weight factors of antenna beams, in which ~~arrangement~~ tranmsitter at least one directional antenna beam implemented with an antenna array is used to establish a radio link and a radio cell is formed with the antenna beam, comprising:

first dividing means dividing the radio cell into at least two different cells by dividing the antenna beam,

second dividing means dividing the antenna beam forming a radio cell into at least two user-specific beams, and

selecting means selecting weight factors of antenna elements of the antenna array such that the antenna element specific sums of corresponding weight factors of beams formed with the same antenna array are at least substantially equal within predetermined limits in order to achieve a predetermined power balance between different antenna elements.